ICP/EXT-04-00389
Revision 1

National Emission Standards for Hazardous Air Pollutants Radiological Monitoring Plan for Phases I and II of the Accelerated Retrieval Project

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Idaho Completion Project

Bechtel BWXT Idaho, LLC

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ABSTRACT

This document describes the radiological particulate material-sampling system used to collect samples of air emissions during Accelerated Retrieval Project operations within the Subsurface Disposal Area of the Radioactive Waste Management Complex. The purpose of this revision is to establish planning for integrated sampling of radiological particulate material emissions from Phases I and II of the Accelerated Retrieval Project. Revision 0 of this plan addressed only Phase I of the project.

The focus of Phase I of the Accelerated Retrieval Project is limited excavation and retrieval of selected waste streams from a designated portion of Pit 4. The selected retrieval area is approximately 1/2 acre in size and is located in the eastern portion of Pit 4. Phase II of the project shares the Phase I objectives. The Phase II retrieval area lies immediately to the east of the Phase I area and includes the eastern portion of Pit 4 and a portion of the west end of Pit 6. The Phase I Retrieval Enclosure structure will be extended to the east to encompass the Phase II retrieval area. Once the Phase II facility is constructed and operations are commenced, emissions will be exhausted simultaneously out of both the Phase I and Phase II exhaust stacks.

Sampling systems for Phases I and II of the Accelerated Retrieval Project will be installed to comply with the National Emission Standards for Hazardous Air Pollutants radiological monitoring and reporting requirements. This report constitutes the quality assurance project plan and presents the applicable quality requirements for sampling, analysis, and reporting of particulate radionuclide emissions data, and discusses how specific requirements will be implemented. Operational objectives and major activities are discussed, and responsibilities of each organization involved with the project, including the Bechtel BWXT Idaho, LLC, analytical services provider, Maintenance Department, Regulatory Integration Organization, and Quality Assurance Department, are explained in detail. Specific data quality assurance parameters also are described. These items are addressed to ensure that measurements of radioactive particulate material emissions from the Accelerated Retrieval Project are acceptable for compliance with requirements of the National Emission Standards for Hazardous Air Pollutants.

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ACRONYMS

acfm	actual cubic feet per minute
ANSI	American National Standards Institute
ARP	Accelerated Retrieval Project
ARP II	Phase II of the Accelerated Retrieval Project
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	*Code of Federal Regulations*
COC	chain-of-custody
DOE	U.S. Department of Energy
EDE	effective dose equivalent
EMS	emissions monitoring system
EPA	U.S. Environmental Protection Agency
HEPA	high-efficiency particulate air
HPS	Health Physics Society
H&V	heating and ventilation
ICP	Idaho Completion Project
INL	Idaho National Laboratory
MCP	management control procedure
NESHAP	National Emission Standards for Hazardous Air Pollutants
NIST	National Institute of Standards and Technology
NTCRA	non-time-critical removal action
QA	quality assurance
QAPjP	quality assurance project plan
QC	quality control
QSAS	Quality Systems for Analytical Services
RFP	Rocky Flats Plant

RWMC	Radioactive Waste Management Complex
SAM	Sample and Analysis Management
SDA	Subsurface Disposal Area
STD	standard
TRU	transuranic
VOC	volatile organic compounds
WIPP	Waste Isolation Pilot Plant

National Emission Standards for Hazardous Air Pollutants Radiological Monitoring Plan for Phases I and II of the Accelerated Retrieval Project

1. INTRODUCTION

1.1 Purpose and Scope

This document describes the radiological particulate material-sampling system used to collect samples of air emissions during Accelerated Retrieval Project operations within the Subsurface Disposal Area (SDA) within the Radioactive Waste Management Complex (RWMC) at the Idaho National Laboratory (INL) (see Figure 1). The purpose of this revision is to establish integrated planning for radiological sampling for Phases I and II of the Accelerated Retrieval Project (ARP). Revision 0 of this plan addressed only Phase I of the project.

The focus of the initial ARP is limited excavation and retrieval of selected waste streams from a designated portion of Pit 4. The selected retrieval area is approximately 1/2 acre in size and is located in the eastern portion of Pit 4. Phase II of ARP (ARP II) shares the original ARP objectives. The ARP II retrieval area lies immediately to the east of the original ARP area and includes the eastern portion of Pit 4 and a portion of the west end of Pit 6 (see Figure 2). The Phase I Retrieval Enclosure structure will be extended to the east to encompass the Phase II retrieval area. An additional filtration system and exhaust stack will be constructed to support the Phase II retrieval area expansion. Once the Phase II facility is constructed and Phase II operations commence, emissions will be exhausted simultaneously out of both the Phase I and Phase II exhaust stacks. Both phases of ARP are being conducted by the U.S. Department of Energy (DOE) as a "Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)" (42 USC § 9601 et seq., 1980) non-time-critical removal action (NTCRA).

Sampling systems for Phases I and II of ARP will be installed to comply with the *Code of Federal Regulations* (CFR) "National Emission Standards for Hazardous Air Pollutants" (NESHAP) (40 CFR 61) radiological monitoring and reporting requirements identified as CERCLA applicable or relevant and appropriate requirements for ARP. This report constitutes the quality assurance project plan (QAPjP) for ARP, and presents the applicable quality requirements for sampling, analysis, and reporting of particulate radionuclide emissions data. This report also discusses how specific requirements will be implemented and discusses operational objectives and major activities. Responsibilities of each organization involved with ARP, including the Bechtel BWXT Idaho, LLC, analytical services provider, Maintenance department, Regulatory Integration organization, and Quality Assurance department, are explained in detail. Specific data quality assurance parameters also are described. These items are addressed to ensure that measurements of radioactive particulate material emissions from ARP are acceptable for compliance with NESHAP requirements.

Phase I retrieval operations commenced in January 2005. The original schedule included a planned retrieval operations period of approximately 1 year, followed by a 6-month deactivation, decontamination, and decommissioning phase (DOE-ID 2004a). Because this type of activity has not been conducted before, the actual period of operations is associated with relatively significant uncertainty. Phase II operations will commence shortly after Phase I retrieval is complete. Overall, it is assumed that Phase I and Phase II operations will require that the emissions monitoring systems remain operational for a period that exceeds 1 year. This assumption supports required maintenance and calibration requirements discussed later in this plan.

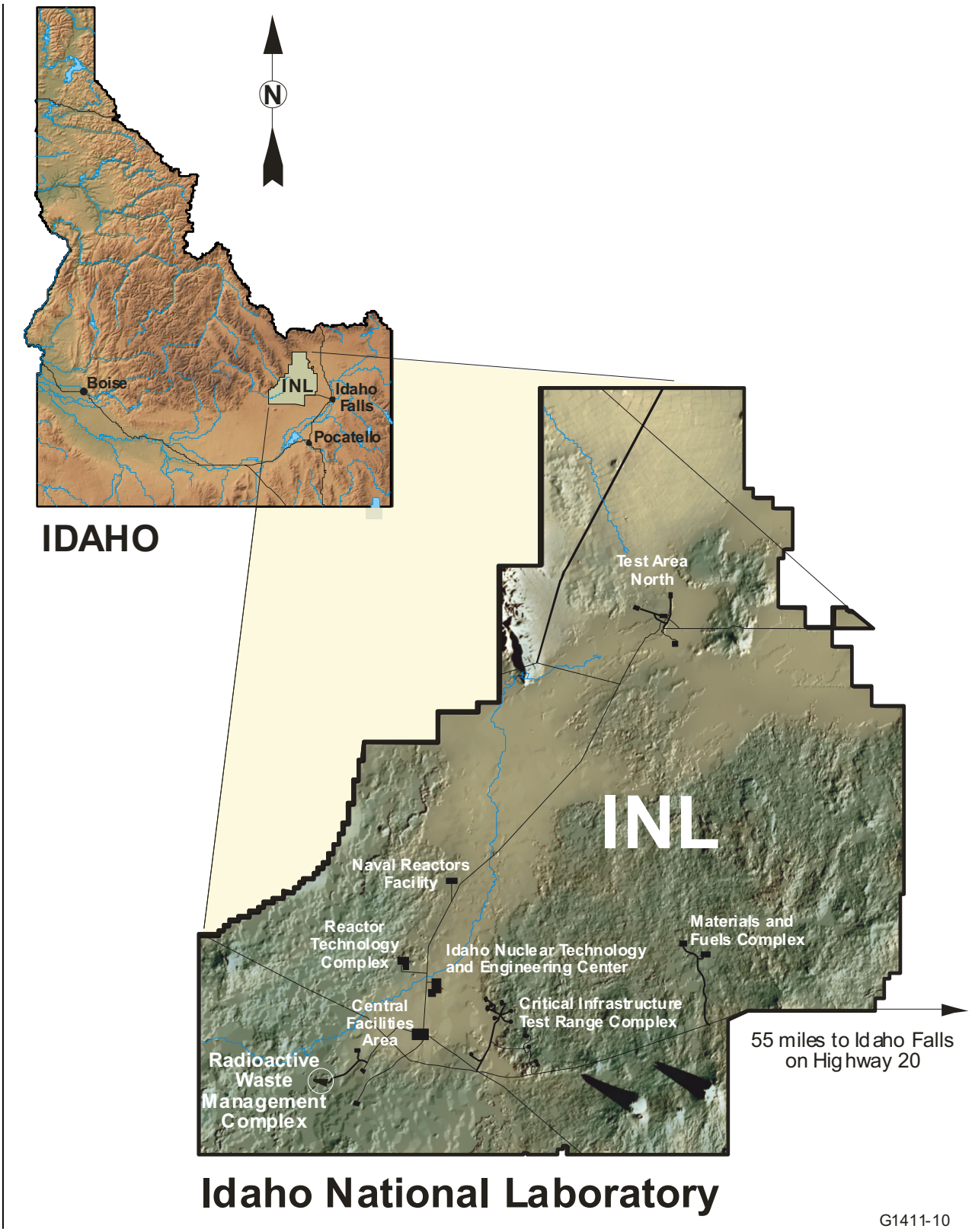

Figure 1. Map of the Idaho National Engineering and Environmental Laboratory showing the location of the Radioactive Waste Management Complex.

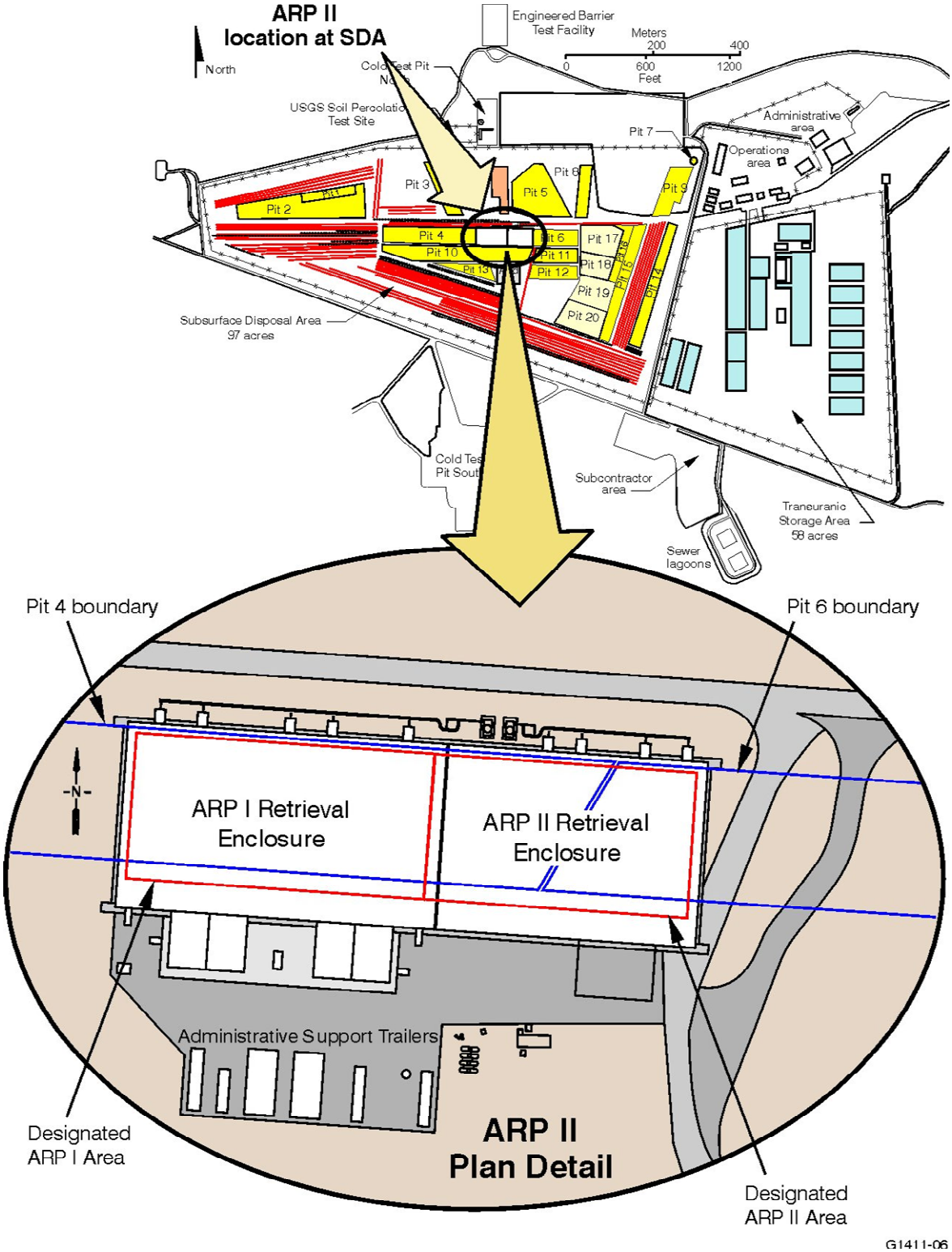

Figure 2. Map of the Subsurface Disposal Area showing the location of Phases I and II of the Accelerated Retrieval Project.

This plan applies to the sampling system used to collect samples during both Phases I and II of ARP operations and is written to provide integrated requirements for sampling of both stacks. Thus, while the document is written to bound simultaneous operation of both stacks that will be required for Phase II, the equivalent design and operational approach for the two stacks allows for implementation of the plan for a single stack location as will occur during Phase I. The sampling systems are referred to as record sampling systems, which will be installed to comply with NESHAP monitoring and reporting requirements.

1.2 Location

The ARP is being conducted within Pit 4 and Pit 6, located at the SDA within the RWMC at the INL (see Figure 2). The INL is a DOE facility located in southeastern Idaho and occupies 2,305 km^2 (890 mi^2) of the northeastern portion of the Upper Snake River Plain. Regionally, the INL is close to the major cities of Idaho Falls and Pocatello, and to U.S. Interstate Highways I-15 and I-86.

The RWMC encompasses 0.76 km^2 (187 acres). The RWMC is located in Butte County, approximately 27.5 km (16.5 mi) southeast of Arco, Idaho, in Section 18, T2N, R29E. A map of the INL showing the location of the RWMC is provided in Figure 1.

The selected retrieval area for Phase I is approximately 1/2 acre in size and is located in the eastern portion of Pit 4. The Phase II area is of similar size and is located directly to the east of the Phase I area (see Figure 2). Based on evaluation of shipping and burial records, the Phase I and II areas were selected as the highest priority retrieval areas by DOE, with agreement from the U.S. Environmental Protection Agency (EPA) and the Idaho Department of Environmental Quality.

Pit 4 shares a common boundary with Pit 6 on the east. Pit 10 is located south of Pit 4. Trenches are located to the north and west. Based on probing data, the depth to basalt in the area is anticipated to range from 4.9-8.5 m (16-28 ft). An existing treatment unit with three wells belonging to the Organic Contamination in the Vadose Zone Project is located to the east and requires relocation to accommodate the Rretrieval Enclosure expansion associated with Phase II work scope.

1.3 Project Background

The ARP was established to demonstrate retrieval of selected waste materials from the SDA. The removal action was implemented in support of the NTCRA under CERCLA and the National Contingency Plan (40 CFR 300). Originally, ARP was approved in August of 2004 (DOE-ID 2004b). Retrieval activities were initiated on January 4, 2005. Phase II activities are currently in the planning stages. An engineering evaluation and cost analysis document[a] is in preparation at this time and is scheduled for submission to the public for review in March 2005. This plan supports implementation of required radionuclide emissions monitoring for the planned Phase II activities assuming implementation occurs following the required public involvement process. If Phase II activities are not implemented by DOE, this plan will be limited in implementation to Phase I activities.

The objective of the overall ARP is to demonstrate safe removal and repackaging of transuranic (TRU) waste from the retrieval area to a safe storage location until ultimate disposition is made at the Waste Isolation Pilot Plant (WIPP) in New Mexico. The removal action is primarily focused on retrieval of the following Rocky Flats Plant (RFP) waste streams: Series 741 and 743 sludge, graphite, filters, and roaster oxide waste (DOE-ID 2004a). These waste forms contain various radiological and nonradiological contaminants including TRU radionuclides, volatile organic compounds (VOCs), and various isotopes of

a. DOE-ID, 2005, "Engineering Evaluation/Cost Analysis for Phase II of the Accelerated Retrieval Project (Draft)," DOE/NE-ID-11223, Rev. B, U.S. Department of Energy Idaho Operations Office.

uranium (DOE-ID 2004a). Plutonium isotopes shipped to Pit 4 from RFP include Pu-238, Pu-239, Pu-240, Pu-241, and Pu-242. Uranium isotopes (i.e., U-234, U-235, U-236, and U-238) were shipped to the RWMC in the form of depleted uranium oxides. Also included in the waste shipments were Am-241 and trace quantities of Np-237. A number of radionuclides (e.g., Co-60, Cs-137, Sr-90, Y-90, and Ba-137), primarily from INL waste generators, are also expected to be encountered in the project area.

2. PROJECT RETRIEVAL DESCRIPTION

Various types of radioactive and hazardous waste will be excavated and removed from Pit 4 and Pit 6. Basic operations consist of waste retrieval in a Retrieval Enclosure, transfer of the waste into containers at the Drum Packaging System, assay of the waste containers after release from the Retrieval Enclosure, and interim storage at approved storage facilities. Other processes necessary for safe handling and processing of waste and waste containers will be performed as determined necessary by the project.

The storage site will be located within the RWMC Transuranic Storage Area in the WMF-628 facility. Storage of waste also may occur at other compliant facilities elsewhere on the INL.

The original ARP Retrieval Enclosure is a temporary, relocatable structure that houses excavation, packaging, and sampling activities as well as and personnel and equipment ingress and egress activities. The Retrieval Enclosure provides weather protection and supports year-round operations for these activities. The Retrieval Enclosure is a commercially available, standard, fabric-tensioned structure, approximately 51.8 m (170 ft) wide by 87.8 m (288 ft) long with a 6.1-m (20-ft) minimum interior clearance at the eaves. Two attached structures, 21.3 × 15.2 m (70 × 50 ft) in size, house airlock operations (e.g., waste examination and drum repackaging). The ARP II operations involve construction of an extension of the existing Retrieval Enclosure to the east as shown in Figure 3. The extended building will completely enclose the designated ARP II retrieval area in Pit 4 and Pit 6 and will be approximately 51.8 m (170 ft) wide by 73.8 m (242 ft) long. Ventilation is provided by a high-efficiency particulate air (HEPA) -filtered exhaust system. The exhaust stack is designed to minimize local worker exposure and permit proper radiological emissions monitoring configuration. The ventilation system is equipped with an emissions monitoring system to sample and record possible releases of radioactive substances.

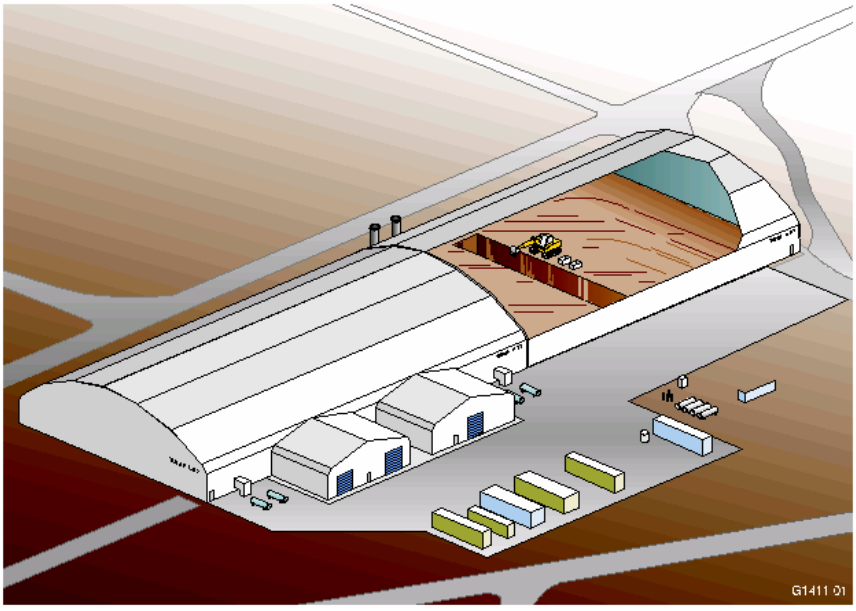

Figure 3. The Accelerated Retrieval Project Retrieval Enclosure and Storage Enclosure.

The retrieval process will begin with removal of the overburden soil, which will eventually be returned to the pit after completion of retrieval operations. Waste-zone material will be retrieved using manned excavators and will be placed in a tray. Phase II operation also involves the plan to use of an excavator that is controlled remotely. The trays of targeted waste will be transported to the Drum Packaging System by a forklift. At the Drum Packaging System, operators will perform functions supporting transfer of the waste to WIPP (e.g., removal of prohibited items if observed) and sample the waste as necessary.

Waste material will be assayed to determine whether it is TRU or non-TRU waste for safe storage (i.e., criticality safety aspect). The TRU and non-TRU material will follow different treatment and disposition paths. All TRU material will be characterized, certified, and transported to WIPP for final disposition. Non-TRU material will initially be located in interim storage, pending final disposal.

Final closure of the excavated area will not occur as part of the NTCRA, but will occur for the overall SDA area as specified in the Operable Unit 7-13/14 Record of Decision. The operations will, to the extent practical, result in the complete removal of the targeted RFP waste streams from the retrieval area. Removal of these waste streams will result in a significant reduction of the amount of TRU radionuclides and uranium isotopes within the retrieval area. In addition, removal of the Series 743 sludge will reduce the source of VOCs that remain in waste containers located in the retrieval area.

3. OBJECTIVE OF THE NATIONAL EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS MONITORING PROGRAM FOR THE ACCELERATED RETRIEVAL PROJECT

The objective of the NESHAP Monitoring Program for the ARP Retrieval Enclosure exhaust stack is to generate data of appropriate quality to serve as a record of emissions for NESHAP compliance. To this end, representative samples of particulate emissions will be collected and analyzed for radioactive material, and integrated stack flows will be measured during each sampling period. These measurements will be performed in accordance with American National Standards Institute (ANSI) Standards/Health Physics Society (HPS) N13.1-1999,[b] "Sampling and Monitoring Releases of Airborne Radioactive Substances from the Stacks and Ducts of Nuclear Facilities," as required by the NESHAP.

3.1 National Emission Standards for Hazardous Air Pollutants Requirements

The NESHAP requirements are defined in 40 CFR 61, Subpart H, "National Emissions Standards for Emissions of Radionuclides Other Than Radon from Department of Energy Facilities." Under the NESHAP in 40 CFR 61.92, "Standard," emissions of radionuclides to the ambient air from DOE facilities shall not exceed amounts that would cause any member of the public to receive, in any year, an effective dose equivalent (EDE) of 10 mrem. The NESHAP also requires continuous monitoring if the unabated emissions from a source could cause greater than 0.1 mrem/year to a member of the public.

For Phase I, the estimated unabated EDE to the INL maximum exposed individual is 5.0 mrem/year, a value 50 times greater than the 0.1 mrem/year threshold limit for continuous monitoring (EDF-4692). Thus, the requirement for continuous monitoring is applicable to ARP. Based on similar waste forms, it is assumed that the estimated emissions for Phase II will also require continuous monitoring. This assumption will be verified through calculations specific to the Phase II inventory. Modification of this plan will be made only in the event that the Phase II emissions calculations indicate

b. ANSI (1999) standards are adopted by the Health Physics Society.

that the continuous monitoring requirement is not necessary for Phase II, or the radionuclides requiring monitoring are not the same as Phase I (see Section 3.2). In accordance with 40 CFR 61.93, "Emissions Monitoring and Test Procedures," all radionuclides that could contribute more than 10% of the potential EDE for a release point shall be measured in conformance with the requirements of the NESHAP. Americium-241, Pu-239, and Pu-240 each cause over 10% of the potential EDE (EDF-4692); consequently, these radionuclides must be measured in samples drawn continuously from the stack. Sampling and analyses of these radionuclides must be performed in accordance with 40 CFR 61, Appendix B, Method 114, which specifies quality assurance requirements for monitoring programs that are conducted for NESHAP compliance. Analyses for other radionuclides (e.g., gamma spectrometric analysis or Sr-90 radiochemical analysis) will be performed as a best management practice.

3.2 Accelerated Retrieval Project Emissions Monitoring Scope and Description

This plan addresses the NESHAP record sampling system for the Retrieval Enclosure, laboratory analysis of samples, and data management. The ARP operations will result in suspension of radioactive material. To control dispersal of airborne radioactive material, the operations will be conducted within the Retrieval Enclosure, which will be vented to the atmosphere through a filtration system and stack. An additional equivalent filtration system and stack will be constructed for the Phase II Retrieval Enclosure expansion. The potential to emit radionuclides from the Retrieval Enclosure is predominantly associated with excavation and handling of waste during project operations. Retrieval Enclosure emissions released through the HEPA-filtered ventilation system and stack are regulated under NESHAP and are addressed in this plan. Fugitive radiological emissions from the Retrieval Enclosure will also occur, and these are estimated in the project air emissions evaluation (EDF-4692).

Monitoring requirements established through this plan do not apply to fugitive releases from the Retrieval Enclosure.

The record sampling systems (i.e., for both Phase I and Phase II stacks) will consist of two discrete subsystems:

- Stack flow sensors and meters to measure the volume of emissions from the stacks during each sampling period, in accordance with the ANSI/HPS N13.1-1999 requirements.

- Particulate radionuclide sampling systems for collecting the record samples from the stack gas for NESHAP compliance. The record samplers provide for the collection of representative samples of the particulate radionuclide emissions, in accordance with ANSI/HPS N13.1-1999.

3.3 Human Factors

For each stack, a transmission line carries the stack sample from the inlet to near ground level for collection by a filter to avoid hazards to personnel associated with elevated workstations. The filter holders will be located outdoors near the base of the stacks such that workers will be exposed to the weather if protection is not provided. Adverse weather conditions may require rescheduling filter change-out.

3.4 Description of this Quality Assurance Project Plan

This plan was prepared in accordance with and implements applicable elements of guidance from Appendix B of Management Control Procedure (MCP) -561, "Quality Program Plan/Quality Assurance

Project Plan Development." This guidance is based on *EPA Guidance for Quality Assurance Project Plans* (EPA 1998), which provides specific requirements for preparing quality programs for environmental monitoring and measurement projects and lists the standard elements of control specifically applicable to environmental monitoring and surveillance activities. In addition, this plan meets NESHAP quality requirements (40 CFR 61).

The analytical laboratory-specific QAPjP will meet the requirements in *Quality Systems for Analytical Services* (QSAS) (DOE 2004), a primary requirements document for the DOE quality assurance (QA) program for analytical laboratory services.

4. PROJECT ORGANIZATION AND RESPONSIBILITY

This section identifies the organizational responsibilities, relationships, and lines of communication for activities related to the monitoring and reporting of radionuclide emissions from the ARP Retrieval Enclosure heating and ventilation (H&V) stacks. Individual organizations identified in this plan maintain current organizational charts that reflect the levels of authority and responsibility used to implement this plan. Functional relationships and lines of communication for the NESHAP monitoring program are summarized in Table 1.

Table 1. Lines of communication for the Accelerated Retrieval Project National Emission Standards for Hazardous Air Pollutants monitoring program.

Function	Performer	Lines of Communication
Maintenance—NESHAP record sampler and flow meter	Craftsperson	↔Maintenance technical lead ↔ Shift supervisor ↔ ARP operations manager
Operation—NESHAP record sampler and flow meter	ARP operations staff	↔ Shift supervisor ↔ ARP operations manager
Sample filter removal	ARP operations staff	↔ Shift supervisor ↔ ARP operations manager
Transfer filters to laboratory	Sample coordinator (e.g., Waste Generator Services)	↔ Shift supervisor ↔ ARP operations manager ↔ Laboratory personnel ↔ Packaging and Transportation personnel ↔ Radiological Control personnel
Sample analysis, review, and reporting	Analytical laboratory staff	↔ Analytical Laboratory quality assurance ↔ Analytical Laboratory project management ↔ SAM staff
Transmit analysis results to the facility	Analytical laboratory staff	↔ SAM staff ↔ ARP operations manager
Environmental Data Warehouse	SAM staff	↔ ICP NESHAP coordinator
Annual Retrieval Enclosure stack reporting	ARP operations staff	↔ ARP operations manager ↔ ICP NESHAP coordinator
NESHAP annual report	ICP NESHAP coordinator	↔ ICP Environmental, Safety, and Health program director ↔ U.S. Department of Energy Idaho Operations Office ICP NESHAP coordinator

Table 1. (continued).

Function	Performer	Lines of Communication
Annual assessments[a]	ICP NESHAP coordinator	↔ ARP operations manager ↔ Environmental, Safety, and Health program management

a. Annual assessments will be instituted if the ARP operations schedule is extended beyond 1 year from the startup date.

ARP = Accelerated Retrieval Project
ICP = Idaho Completion Project
NESHAP = National Emission Standards for Hazardous Air Pollutants
SAM = Sample and Analysis Management

Organizations and their responsibilities for implementing the NESHAP monitoring program are provided in the following subsections. The listing of responsibilities is not intended to be comprehensive; rather, it reflects the general areas of responsibility for these organizations.

4.1 Accelerated Retrieval Project Operations

Accelerated Retrieval Project Operations personnel are responsible for the following activities:

- Project or Operations manager reviews and approves this plan and any revisions with concurrence from the quality engineer
- Operations manager or shift supervisor provides overall responsibility, coordination, and integration of monitoring radiological emissions from the Retrieval Enclosure H&V stacks
- Operators collect samples from the record samplers and ships them to the Analytical Laboratory
- Operations manager performs annual calculation of the radiological emissions released from the Retrieval Enclosure H&V stacks in accordance with applicable procedures and guidance identified by the Idaho Completion Project (ICP) NESHAP coordinator
- Operations manager provides and certifies annual reporting information (i.e., data packages) in accordance with applicable company procedures and guidance identified by the ICP NESHAP coordinator
- Operations manager manages records of NESHAP radiological emission data, observes stack flow, and reports in accordance with approved ICP procedures
- Operations manager reviews procedures concerning the NESHAP emission-monitoring activities
- Shift supervisor ensures that personnel are properly qualified and trained before operations are conducted
- Operations manager conducts and coordinates periodic reviews of this plan, sampling procedures, and applicable preventive maintenance procedures in accordance with MCP-135, “Creating, Modifying, and Canceling Procedures and Other DMCS-Controlled Documents.”

4.2 Maintenance Department

Maintenance department personnel perform the following activities:

- Maintain, calibrate, and repair the record samplers and the stack flow equipment in accordance with applicable procedures and this plan

- Provide notice to the ARP Operations manager (or shift supervisor) concerning problems encountered
- Prepare work packages.

4.3 Analytical Laboratory

The analytical laboratory performs the following activities:

- Analyze sample media delivered to the laboratory in accordance with (1) the specifications on the chain-of-custody (COC) form, (2) laboratory standard operating procedures, and (3) the applicable laboratory QAPjP
- Ensure that analytical procedures are implemented that result in analytical data consistent with the quantitative parameters specified in this plan and the applicable laboratory QAPjP
- Review and approve analytical results in accordance with the applicable laboratory QAPjP
- Transmit the results of radiological analysis to Sample and Analysis Management (SAM).

4.4 Regulatory Integration Organization

The ICP Regulatory Integration organization is responsible for review of this plan and to review implementation of the ARP NESHAP monitoring program. The Regulatory Integration organization performs the following activities:

- Review this plan and any revisions
- Interpret applicable regulations (e.g., NESHAP) and permits to identify requirements, which, when fulfilled, ensure compliance with DOE orders, EPA regulations, and Idaho Department of Environmental Quality regulations
- Communicate technical requirements for NESHAP radiological emissions monitoring to ARP operations management
- Perform annual assessments of the INL facility NESHAP monitoring programs
- Coordinate technical reviews of the source terms used as input for NESHAP compliance dose calculations
- Verify the radiological emission estimates entered in the Environmental Information System database
- Provide support during external audits, as requested.

4.5 Idaho Completion Project Quality Assurance Department

The ICP QA department performs the following activities:

- Review this plan and any revisions
- Review applicable procedures, design documents, and procurement documents related to NESHAP monitoring for inclusion of quality requirements
- Perform, if requested, periodic external audits of the system and prepares audit reports for management
- Perform surveillance of sampling and analysis activities to ensure compliance with this plan and associated procedures.

5. OBJECTIVES OF THE QUALITY ASSURANCE PROGRAM

The objective of emissions monitoring of the ARP Retrieval Enclosure stacks is to generate data of appropriate quality to serve as a record of emissions for NESHAP compliance. The quantitative and qualitative measurements used to characterize a physical or chemical property always have associated uncertainty. Uncertainty in the data must be held within defined limits if the data are to be used in a decision-making process. Project-specific goals for data quality are established by specifying the tolerable level of uncertainty in the data in terms of standard parameters. These goals specify the level of uncertainty that a decision-maker will accept in results derived from the monitoring data.

5.1 Quantitative Quality Assurance Parameters

The quantitative QA parameters are precision, accuracy, and completeness (defined in 40 CFR 61, Appendix B, Method 114, 4.4). Accuracy is the degree of a measurement agreement with a true or known value. Precision is a measure of the agreement among individual measurements of the same parameter under similar conditions. Completeness is a measure of the amount of valid data obtained compared to the planned amount.

Regulatory requirements mandate that the monitoring data must be sufficient to (1) show that the INL complies with the 10-mrem/year dose limit in the NESHAP and (2) accurately report annual facility releases. The quantitative goals established for each component of the radiological emissions monitoring system are summarized in Table 2. Analytical detection limits (presented in Section 9) are set well below the levels required to comply with the NESHAP. The applicable laboratory QAPjP describes actions taken to ensure and demonstrate that the QA/quality control (QC) parameters for analysis are met. Precision, accuracy, and completeness objectives for stack-sampling equipment and flow-measuring equipment are in accordance with recommended levels in Table 3 of ANSI/HPS N13.1-1999.

Table 2. Precision, accuracy, and completeness parameters.

Item	Quantitative Parameters		
	Precision[a] (%)	Accuracy (%)	Completeness[b] (%)
Equipment			
NESHAP record sampler flow rate measurement	±20	±20	90
Overall completeness, sampling, and analysis	NA	NA	75
Laboratory Analyses of Filters for Particulate Radionuclides [c]			
Gamma emitters (Cs-137/Ba-137m)	±10	±10	90
Sr-90	±15	±15	90
Am-241, Pu-239, and Pu-240	±15	±15	90

a. Laboratory precision estimates are based on repeated measurements of spiked samples prepared in the laboratory.
b. Overall completeness objectives over the annual compliance-reporting period are set at 75% to allow for the loss of up to three samples that might occur because of problems in the field or laboratory.
c. Precision and accuracy for analyses are evaluated with QC samples as part of the laboratory's participation in performance evaluation programs (see Section 12.3 for details).

NESHAP = National Emission Standards for Hazardous Air Pollutants
QC = quality control

5.2 Qualitative Quality Assurance Parameters

The qualitative QA parameters are comparability and representativeness. Comparability of data sets is the determination that the data were developed using identical or equivalent sampling and analysis methods. If so, the data sets may be compared or combined for statistical analysis. Comparability is promoted by consistent use of procedures through all phases of sampling and analysis and confirmed by the degree of similarity of results of QC sample analysis. With respect to stack sampling for NESHAP compliance, representativeness is a measure of the degree to which samples represent the average properties of the physical and chemical composition of the emissions. Representativeness is promoted by adherence to the ANSI/HPS N13.1-1999 standard and consistent use of procedures through all phases of sampling and analysis.

Comparability is evaluated by (1) verifying that standardized and controlled sampling and analytical methods have been used and (2) using National Institute of Standards and Technology (NIST) traceable standards during analysis. Representativeness is evaluated by verifying that the record sampling system has been designed and operated in conformance with ANSI/HPS N13.1-1999.

6. SAMPLING SYSTEM DESIGN AND PROCEDURES

The Retrieval Enclosure record sampling systems consists of two subsystems: the stack flow meters and the particulate sampler. The stack flow meters are used to measure the volume of emissions, and the particulate samplers are used to collect representative samples of the particulate radioactive material in the emissions. The Retrieval Enclosure stack-monitoring systems will be operated in accordance with reviewed ARP procedures that incorporate the manufacturer's instructions wherever applicable. Procedures for each system are summarized below.

The emissions monitoring system (EMS) consists of two significant subsystems: the stack flow monitoring system and the sample extraction and control system.[c] The stack flow monitoring system determines the stack flow rate, and the sample extraction and control system pulls a proportional sample from the stack flow. This proportionality is based on the total stack flow. In other words, as the stack flow increases, the sample flow increases. As the stack flow decreases, the sample flow decreases.

It should be noted that the total stack emissions can be calculated in two ways. The obvious approach is to take the totalized stack flow and divide it by the totalized record-sample flow. This quotient is multiplied by the contamination quantified on the sample filter for the total radioactive substance release to the atmosphere. However, because the proportionality constant is known for the stack flow rate versus the record sample flow rate, it can be multiplied by the sample contamination to determine the total release of radioactive substances.

6.1 Stack Flow Monitoring

Stack flow meters and associated sensors are installed on the Retrieval Enclosure stacks to continuously measure the volume of emissions. The output of these devices will be recorded by a data logger in the stack monitor cabinet and may be recalled to provide the information necessary to determine emission flow for a requested period. An operator log can be used to record the time of filter installation and removal, the elapsed time the filter was in service, and the total stack flow during the period. Periodic stack flow rates and totalized stack flows can also be remotely retrieved by using a network connection to

c. Tom Hipp E-mail to Jila Banaee, ICP, May 10, 2004, "Sampling System Design and Procedures."

the EMS data-logger. The EMS controller will activate a local alarm should the stack flow drop below 13,000 scfm.

6.2 Particulate Sampling System

The particulate sampling system collects a representative sample of particulate radionuclide emissions on a record sample filter for subsequent laboratory analysis. The filter will be selected in accordance with the recommendations of Annex D of ANSI/HPS N 13.1-1999. The NESHAP record-sampling systems will consist of shrouded sampling probes,[d] aerosol transmission lines, flow-regulated proportional air pumps, sample flow sensors and transmitters, sample filter holders, and associated control electronics. The sample flow transmitters and controllers will generate a signal to alert the operator in the event of a low-flow condition. The EMS controllers will activate an alarm if low flow or loss-of-flow occurs to indicate that the shift supervisor must begin appropriate response and corrective actions.

The normal flow for the Phase I stack is 20,000 actual cubic feet per minute (acfm) (EDF-4856). Stack flow is maintained at this nominal rate during normal operations. The shrouded sampling probe will be selected for the Retrieval Enclosure H&V stack, assuming operation in a 31.38-in.-diameter stack, with a flow of 20,000 acfm at 75°F and 5,000 ft elevation. A backup system is available to provide 20,000-acfm flow in the event that the primary system fails. The Phase II stack will be constructed and operated in this same manner.

NOTE: *Both fans use normal utility power. The sampling system will function within design specifications for volume flows in the range of 0–30,000 acfm (EDF-4856).*

Under accident conditions, the flow rate could drop below 18,000 acfm or even to zero. According to ANSI/HPS N13.1-1999:

> Under most conditions, changes in flow rate will not significantly affect the mixing. In general, if the flow rate increases, acceptable mixing will not be degraded; however, if the flow rate were to be reduced to the point where laminar conditions were approached, there could be a major degradation in mixing effectiveness. This event would generally only be possible with a very small cross section stack or duct, such as a tank vent. If this is possible, the flow system should be modified to preclude the onset of near-laminar conditions.

Even if the Retrieval Enclosure stack flow decreases to 13,000 scfm (low flow-alarm setpoint), the duct Reynolds number will be approximately 5.7×10^5, indicating turbulent flow and well above the 10,000 recommended by ANSI/HPS N13.1-1999. Also, the flow parameter (product of linear stack gas velocity and diameter) at the location of the Retrieval Enclosure stack-sampling probe will be within a factor of 6 of the flow parameter for a previously qualified generic mixing system, indicating that the Retrieval Enclosure sampler will operate under equivalent stack flow conditions used to qualify the design pattern stack (EDF-4856).

d. Tara O'Toole Letter to Distribution, Attn: K. Duvall, U.S. Department of Energy, December 30, 1994, "EPA-Approval of Single-Point Sampling Using the Shrouded Probe Technology for Effluent Monitoring."

6.2.1 Sampler Inlet Siting to Ensure Representative Sampling

To qualify new stacks or ducts by reference to existing stacks of similar design, the new stack and probe designs are required to have the following characteristics (ANSI/HPS N13.1-1999):

- A geometrically similar stack or duct (one with proportional critical dimensions) has been tested, and the sampling location has been found to comply with the requirements of Clause 5.2.2. Critical dimensions are those associated with components of the effluent flow system that can influence the degree of contaminant mixing and the velocity profile. The prior testing may be conducted either on a stack or duct in the field, or it may be conducted on a scale model.

- The product of mean velocity times the hydraulic diameter of the candidate stack or duct is within a factor of six of that of the tested stack or duct, and the hydraulic diameter of the stack or duct is at least 250 mm at the sampling location. The Reynolds numbers based on hydraulic diameter of both the candidate stack or duct and the tested stack or duct are greater than 10,000.

- The sampling location in the candidate stack or duct is placed at a geometrically similar location to that in the tested stack.

The ARP stacks and sampler probe inlet locations will be geometrically similar to a generic mixing system (i.e., the "generic mixing system" presented in McFarland et al. [1999]). Several model- and full-scale generic mixers have been tested for aerosol and velocity mixing. In accordance with ANSI/HPS N13.1-1999, the similarity of the Retrieval Enclosure exhaust stacks and sampling systems to a system that has previously qualified for representative sampling serves as partial qualification of the Retrieval Enclosure exhaust sampling systems (EDF-4856). To fully qualify, the Retrieval Enclosure stacks must be tested and meet the following additional criteria for contaminant concentration and velocity profiles:

- The difference between the coefficients of variation of the stack-gas-velocity profiles (measured in accordance with ANSI/HPS N13.1-1999) of the two systems must not exceed 5% absolute.

- At the proposed sampling location, the flow of particles and gases shall not exhibit excessive angularity or swirl. The presence of swirl can adversely affect the mixing of particles in the effluent and degrade the performance of a sample nozzle. The criterion of acceptability is that the average flow angle shall not exceed 20 degrees (relative to the longitudinal axis of the stack or duct). An appropriate method for determining whether a proposed location meets this criterion is described in 40 CFR 60, Appendix A, Method 1, Section 2.4, "Verification of the Absence of Cyclonic Flow."

Design information for the NESHAP record sampling system and results of the final systems operation test report are contained in a site acceptance test report.[e]

e. EDF-5259, 2004, "Confirmation of Acceptable Coefficient of Variation Sample Extraction Location for the Accelerated Retrieval Project for a Described Area within Pit 4," Rev. 0, Idaho Completion Project.

6.2.2 Sample Collection Schedule and Procedures

During Phase I, a filter sample will be collected each calendar month from the record sampler during the retrieval operations and during activities following the retrieval operations until completion of the interim closure of the retrieval area (i.e., replacement of overburden soil at the retrieval area). Additional samples may be collected at the discretion of the Operations manager. During Phase II, filter samples will be collected at this same frequency from both systems.

If the project begins operations during the last 2 months of a calendar year, or ends operations during the first 2 months of a calendar year, a minimum of two samples will be collected, from each respective stack, as appropriate, during that period of operations. This is to provide better assurance that sufficient samples will be available for the NESHAP calendar-year reporting. Within 1 day of the planned filter-collection date, the filter(s) will be removed from the NESHAP record sampler for analysis. Individuals performing the sampling will use a reviewed and approved procedure to collect the sample (i.e., "ARP—Support systems" [TPR-7418]). The procedure will describe the personnel, equipment, safety practices, custody form, and record-keeping activities to be performed during the sampling event. Pertinent information will be recorded on the NESHAP stack record sampler log and the COC form.

No special sample-preservation procedures are necessary. In addition, no holding times are required, because essentially no short-lived radioactive material will be present in the aged waste buried in Pit 4.

7. SAMPLE CUSTODY

Sample custody procedures are required to confirm the integrity of the sample and to ensure legal admissibility of the ARP stack-sampling results.

7.1 Field Sampling Operations

The NESHAP record filter samples will be collected and transported to the laboratory under COC controls. The ICP COC procedure, MCP-1192, "Chain-of-Custody and Sample Labeling for ER and D&D&D Projects," specifies the actions necessary to maintain the integrity of the samples during sample collection and storage until they are transferred to the laboratory. Field sampling personnel will complete the COC form (Form 435.20) at the time of sample collection and attach a unique label to the sample-collection bag. The COC form and sample-collection label includes the sample location, sample number(s), date and time of sample collection, name and initials of the individual collecting the sample, and the requested analyses. A separate form (e.g., Form 410.03, "Radioanalytical Services Analysis Request") may be used to record the stack flow information. The COC form will be kept with the samples until they are transferred to the laboratory sample custodian. Field and laboratory sample custodians responsible for samples will document the transfer on the COC form by signing and dating the form, and noting the time of transfer. A record copy of the COC form provides the documentation necessary to trace possession of the sample from the time of collection to receipt at the laboratory.

A systematic, 10-character sample identification code will be used to uniquely identify samples (see Figure 4). Uniqueness is required for maintaining consistency and preventing the same identification code from being assigned to more than one sample.

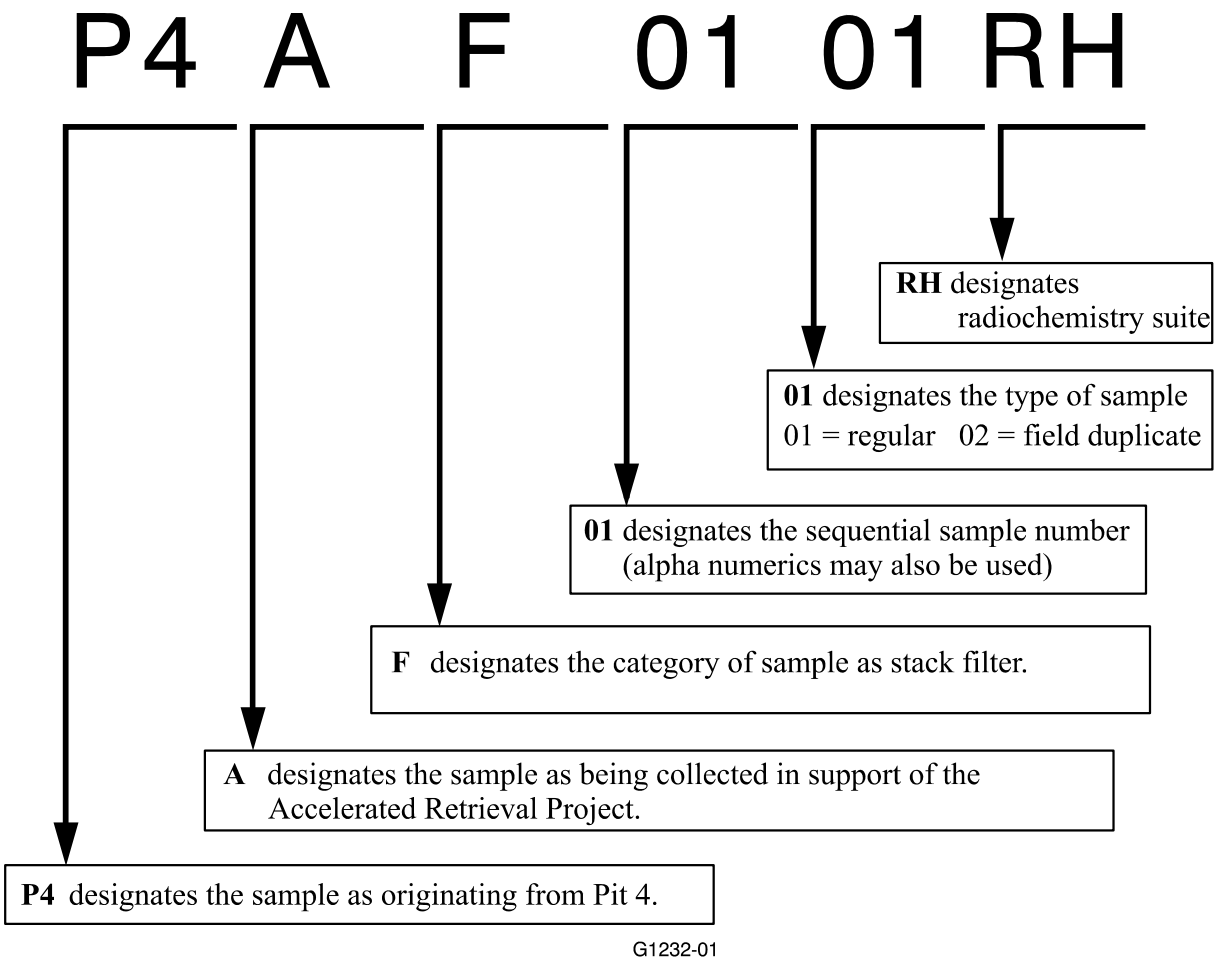

Figure 4. Diagram of the systematic 10-character sample identification code used to uniquely identify samples.

The first and second code designators, **P4**, refer to the sample originating from Pit 4. The third designator, **A**, refers to the sample being collected in support of ARP. The next character, **F**, designates the category of sample as stack filter. The next two alphanumeric identifiers designate the sequential sample number for the category of sample. A two-character set (e.g., 01, 02, or 03) will then be used to designate the type of samples to be collected from the same location. No field duplicates are planned. The last two characters refer to the radiochemistry suite.

7.2 Laboratory Operations

The laboratory sample custodian will log the sample(s) into the sample tracking system and control the samples in accordance with the applicable laboratory procedures. The laboratory may assign an additional number for internal tracking purposes, but the unique Phase I and Phase II stack identification numbers must be retained and documented on the COC form and the laboratory analysis forms.

8. EQUIPMENT CALIBRATION AND FREQUENCY

The calibration program for all measurement and testing equipment will be implemented through procedures developed to meet the requirements of MCP-2391, "Control of Measuring and Test Equipment." Specific calibration procedures will be developed under this program for the equipment. The calibration program for the ARP NESHAP monitoring program will incorporate the following:

- Following procedures for maintaining the calibration of all measurement and testing equipment and all measurement standards used by ARP operations
- Using documented measurement standards traceable to NIST, natural physics constants accepted by NIST, ratio types of calibrations, or comparisons to consensus standards and certified reference standards
- Preparing and using calibration procedures that specify the measurement standard, parameter, range, accuracy, and acceptable tolerance of the calibration; detailed instructions for performance of the calibration; and intervals between calibration
- Labeling all measurement and testing equipment and measurement standards to indicate the calibration status, affixing tamper-resistant seals, and retaining calibration records for specific periods of time
- Evaluating measurement and testing equipment or any measurement standard detected in an out-of-tolerance condition to determine the validity of previous calibrations and measurement results.

8.1 National Emission Standards for Hazardous Air Pollutants Monitoring System Component Calibration

The vendor of the stack-sampling probes, valves, and the continuous operation constant flow sample pumps will calibrate the system before installation. The probes and transmission lines do not require continuing calibration, unless physically damaged or modified. The pump systems (sample flow controllers and pumps), sample flow meters, and stack flow meters each require periodic calibration performed according to the manufacturer instructions at no less than the period recommended in ANSI/HPS N13.1-1999.

Calibration requirements of the individual components in the Retrieval Enclosure stack-monitoring systems are listed in Table 3.

Table 3. Calibration methods and frequency for the Retrieval Enclosure stack-monitoring systems.[a]

Item	Frequency	Calibration Procedure or Method
Record sampler flow meters and timers	Annual	In accordance with manufacturer procedures.
Stack flow meters	Annual	Flow-measurement equipment must agree with Method 2 test results within ±10%. Calibration is in accordance with manufacturer procedures. (Compare with 40 CFR 60, Appendix A, Method 2.)

a. Conforming to ANSI/HPS N13.1-1999, Section 7.6.

8.2 Analytical Laboratory

The analytical laboratory personnel will calibrate laboratory equipment as part of the established analytical procedures, in accordance with the applicable laboratory QAPjP and DOE QSAS requirements.

Calibration standards used by the analytical laboratory for instrument calibration will be NIST standards, NIST-traceable standards, or other national standards when available, in accordance with DOE QSAS requirements.

9. ANALYTICAL METHODS

Analytical methods will be performed in accordance with written procedures under an established laboratory QAPjP. Analytical methods must be capable of producing data that meet the minimum method QA and QC requirements and achieve the minimum detection levels specified in Table 4.

Table 4. Analytical parameters and methods.

Parameter	Sample Category	Analytical Method[a]	Minimum Level of Detection
Gamma emitters (target list to be determined)	Particulate sample	Gamma spectroscopy	5E-11 Ci/filter
Alpha-emitting TRU radionuclides	Particulate sample	Alpha spectroscopy	3E-14 Ci/filter
Sr-90	Particulate sample	Gas flow proportional counting or liquid scintillation counting	2E-12 Ci/filter

a. The analytical method will be comparable to EPA Method 114.

TRU = transuranic

10. DATA REDUCTION, VALIDATION, AND REPORTING

10.1 Laboratory Data Reduction, Review, and Reporting

The analytical laboratory is responsible for the reduction and review of all analytical data in accordance with laboratory standard operating procedures and as required in DOE QSAS. All data will be independently reviewed by SAM for accuracy and completeness, in accordance with customer requirements, before formal reporting to external data users. Results for each sample and the associated uncertainty will be reported to ARP Operations. Any uncorrectable deficiencies associated with the data will be summarized in a brief narrative accompanying the final report to ARP.

10.2 Accelerated Retrieval Project Operations Reports

10.2.1 Accelerated Retrieval Project Emissions Monitoring Reports

Accelerated Retrieval Project Operations will prepare an annual report on the emissions measurements. If ARP operations are carried out in more than 1 calendar year, a separate annual report will be required for each year. Annual reports will provide:

- The radionuclide concentration data and summary of the supporting QA data. Emissions may be extrapolated from actual measurements, but the periods of actual and extrapolated data must be reported.

- Volume of stack emissions for the year.
- Operating times for the NESHAP record sampler and stack-flow measuring equipment for comparison with the objectives for completeness.
- Results of assessments or audits, and a description of any required corrective actions.
- Discussion of data that do not achieve the objectives of this plan including precision, accuracy, and completeness.
- Discussion of any data extrapolation used during any identified periods when completeness of data for the NESHAP record sampler is less than the objectives.

The report will be certified by the ARP Operations manager and provided to the NESHAP coordinator.

10.2.2 Data Validation and Transfer

Estimates of radiological emissions (measured in curies) and volumetric discharge data (measured in actual cubic meters or cubic feet) from the Retrieval Enclosure stacks will be validated by SAM. Validation will be performed in accordance with "Levels of Analytical Methods Data Validation" (GDE-7003). Data will then be stored in the Integrated Environmental Data Management System and uploaded to the Environmental Data Warehouse by SAM.

11. INTERNAL QUALITY CONTROL CHECKS AND FREQUENCY

Internal QC measures will be used to confirm that the quality of the sample collection system, the laboratory analyses, and the data validation and reporting process meet programmatic objectives. Internal QC checks are included in the step-by-step instructions in procedures of the performing organizations. Checks are implemented during (1) preventive maintenance operations, (2) calibration of the sampling equipment and stack-flow measuring equipment, (3) validation of field and QC sample analyses by the laboratory, and (4) verification of data by the NESHAP coordinator.

11.1 National Emission Standards for Hazardous Air Pollutants Record Sampler and Stack Flow Meter Internal Quality Control

Internal QC for the NESHAP record sampler and the stack flow meter is achieved through implementation of established operating preventive maintenance procedures (see Table 5).

Table 5. Response test frequency.[a]

Item	Frequency	Calibration Procedure or Method
Record sampler flow meters and timers	Quarterly	In accordance with manufacturer procedures
Stack flow meters	Quarterly	In accordance with manufacturer procedures

a. Conforming to ANSI/HPS N13.1-1999, Section 7.5.

11.2 Laboratory Internal Quality Control

The laboratory QC program requires routine analysis of QC samples for ongoing evaluation of analytical method, instrument, and analyst performance. These internal QC checks are summarized in the applicable laboratory QAPjP.

12. PERFORMANCE AND SYSTEM AUDITS AND FREQUENCY

For long-term projects, audits and assessments are used to evaluate the ability of a system to produce data that fulfill the program objectives, satisfy the QC criteria, and identify areas requiring corrective action. Individuals familiar with the objectives, principles, and procedures used to obtain, analyze, and report the data, but who are not directly involved with the program, will conduct audits and assessments. At least one QA surveillance will be completed on the sampling activities. Written reports of the results will be provided to the appropriate management.

Startup review, testing, and associated reports will serve as the performance audit for the project in the event that project operations do not exceed 1 year. If project operations are extended beyond 1 year, the project NESHAP monitoring system will be subject to periodic assessments and audits.

12.1 Accelerated Retrieval Project Annual Assessments (If Operations Are Extended Beyond 1 Year)

Annual performance assessments will be performed to monitor compliance with the implementation of this plan and applicable regulatory requirements. Assessments will include evaluation of the performance of the ARP monitoring project during a randomly selected sample collection period. The sampling, analysis, and reporting for that period will be reviewed, with the focus on compliance with implementing procedures and data reporting. Assessments will also include a review of any planned or completed corrective actions, personnel responses to system malfunctions during the calendar year, and any deviations from quality standards identified in previous assessments.

The analytical laboratory will conduct assessments in accordance with the applicable laboratory QAPjP.

12.2 Accelerated Retrieval Project External Audits (If Operations Are Extended Beyond 3 Years)

External performance and system audits will be performed to monitor compliance with (1) this plan; (2) 40 CFR Part 61, Appendix B, Method 114, Section 4; and (3) the DOE QSAS. Quality Assurance department staff will conduct any requested independent external audits using regulatory and technical expertise from other ICP organizations. The Pit 4 program manager will schedule an external audit if ARP operations are extended beyond 3 years. External audits will be conducted in accordance with established company programs and procedures in accordance with MCP-552, “Performing Independent Assessments.”

12.3 Laboratory Participation in Performance Evaluation Programs

The analytical laboratory is required to participate in performance evaluation programs sponsored by independent agencies and organizations. These evaluation programs provide independent assessments of laboratory performance for specific analytes and matrices. The two major radioanalytical performance evaluation programs, the Mixed Analyte Performance Evaluation Program and the Quality Assessment

Program, are administered by DOE. Analytical laboratory participation in these programs is summarized in the applicable laboratory QAPjP.

Laboratory participation in performance evaluation programs is evaluated annually under the DOE Consolidated Audit Program. Sample and Analysis Management ensures the laboratory has acceptable performance for the filter matrix and the radionuclides being monitored and analyzed. This is documented by SAM when selecting and acquiring laboratory services.

13. PREVENTIVE MAINTENANCE PROCEDURES AND SCHEDULES

Preventive maintenance is required to minimize equipment failures and promote proper equipment performance. All measurement equipment or instrumentation that directly affects the quality of the radiological emissions data from the Retrieval Enclosure H&V stack is included in the ARP preventive maintenance program. Preventive maintenance of the stack-monitoring system includes equipment cleaning and change-out of worn equipment. Procedures will be performed in accordance with the approved ARP preventive maintenance program through the use of work orders that address specific requirements from 40 CFR 61.

Table 6 presents applicable maintenance, calibration, and field-check requirements of 40 CFR 61, Appendix B, Method 114 (incorporated from ANSI/HPS N13.1-1999, Table 5). Method 114 calls for annual performance of many of the items listed in Table 6. The initial calibration will be conducted before retrieval operations commence.

The schedule shown in Table 6 will be followed, using the date of the first preventive maintenance as the basis for setting the schedule of subsequent annual maintenance.

The analytical laboratory preventive maintenance program is covered in the applicable laboratory QAPjP as required by DOE QSAS.

Table 6. Summary of maintenance, calibration, and field-check requirements.[a]

Item	Frequency or Criterion
Inspect pitot tubes for contaminant deposits.	At least annually
Inspect pitot tube systems for leaks.	At least annually
Inspect sharp-edged nozzles for damage.	At least annually or after maintenance that could cause damage
Check nozzles for alignment, presence of deposits, or other potentially degrading factors.	Annually
Check transport lines of HEPA-filtered applications to determine whether cleaning is required.	Annually
Clean transport lines.	Visible deposits for HEPA-filtered applications. Mean mass of deposited material exceeds 1 g/m^2 for other applications.[b]
Inspect or test the sample transport system for leaks.	At least annually

Table 6. (continued).

Item	Frequency or Criterion
Check mass flow meters of sampling system with a secondary or transfer standard.	At least quarterly
Check response of stack flow rate systems.	At least quarterly
Calibration of flow meters of sampling systems.	At least annually
Calibration of effluent flow measurement devices.	At least annually
Calibration of timing devices.	At least annually

a. Based on ANSI/HPS N13.1-1999, Table 5.
b. In 40 CFR 61, Appendix B, Method 114, Table 2, under the listing for ‘‘Clean transport lines,’’ the “Frequency of Activity Column” states: ‘‘Visible deposits for HEPA-filtered applications. Surface density of 1 g/cm^3.’’ This should read ‘‘Visible deposits for HEPA-filtered applications. Mean mass of deposited material exceeds 1 g/m2 for other applications.’’ Table 2 used in the Appendix B, Method 114, was originally from the ANSI Standard (ANSI/HPS N13.1–1999); Section 6.4.6, ‘‘Cleaning transport lines,’’ explains the value used and the required process involved in cleaning transport lines. This section did not use terms of density, but in terms of the mass of material deposited (reference: Federal Register Vol. 69, No. 116, pp. 33865–33866, June 17, 2004).

ANSI = American National Standards Institute
HEPA = high-efficiency particulate air

14. CORRECTIVE ACTION

14.1 Deviations

Actions to correct deficiencies in the emissions measurement system will be initiated, documented, and tracked through one of several mechanisms depending on the nature of the noncompliance and how the noncompliance was discovered. Process deficiencies (i.e., a deficiency in a process, program, or activity that renders the quality unacceptable) will be identified and tracked through resolution under MCP-598, “Corrective Action System,” using the Issue Communication and Resolution Environment system. Nonconforming items (i.e., an item, hardware, material, or data having unacceptable quality) will be identified and tracked in accordance with MCP-538, “Control of Nonconforming Items.”

15. QUALITY ASSURANCE REPORTS TO MANAGEMENT

A report summarizing all audit and assessment activities will be prepared within 90 days of the completion of any assessment or audit that is conducted in response to Sections 12.1 or 12.2 of this plan. The report is presented to ARP management. Each organization that has been assessed will be responsible for preparing and carrying out corrective action plans to resolve deficiencies.

16. CHANGE CONTROL

Changes to this plan, the design or operation of the ARP stack, or the design or operation of the record sampling system will require the review and approval of project operations, project QA, and Regulatory Integration Organization staff, as appropriate.

17. REPORTING

Accelerated Retrieval Project operations and the NESHAP coordinator will use the NESHAP monitoring data to estimate cumulative radionuclide emissions for compliance with 40 CFR 61.93. The data also will be used to prepare the NESHAP annual report.

18. RECORDS

The ICP manages records through established programs (e.g., "Records Management" [PDD-11]), procedures (e.g., MCP-557, "Managing Records"), and plans (e.g., "Document and Records Management for the Buried Waste Cleanup Project" [PLN-1556]). Records generated during implementation of procedures are identified in accordance with Standard (STD) -8, "Standard for Management Control Procedure Writing," and STD-9, "Standard for Technical Procedure Writing," which are company procedure-writing standards. Records are assigned retention periods in accordance with regulatory requirements and standards promulgated through the National Archives and Records Administration.

Raw radioanalytical data are maintained by the analytical laboratory for 5 years. Dose-modeling documentation is maintained by Regulatory Integration Organization for a minimum of 5 years, as required by NESHAP.[f]

19. REFERENCES

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f. The retention period for emergency plan implementing procedure records is 75 years. The Regulatory Integration organization transfers records to the INL Records Storage Facility (IF-663) after 5 years.

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MCP-557, 2004, "Managing Records," Rev. 9, Idaho National Engineering and Environmental Laboratory.

MCP-561, 2003, "Quality Program Plan/Quality Assurance Project Plan Development," Rev. 5, Idaho National Engineering and Environmental Laboratory.

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